

Multi-Object Payload Deployment

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The official link for this solicitation is:

<http://www.acq.osd.mil/osbp/sbir/solicitations/sbir20152/index.shtml>

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Description:

Future weapon systems may be required to deliver multiple payloads. A key technological driver for multi-object payload vehicles is the restraint and deployment method. This topic seeks innovative solutions to reliably restrain and release the payloads with precise deployment dynamics. Restraint technology must withstand high axial shock and acceleration loads. Payload deployment dynamics should create low radial acceleration loads. Deployment will occur outside the atmosphere and technologies should offer flexible (simultaneous/sequential) deployment. The design should interface with current missile defense platforms. For the purposes of Phase I, deployable payloads should have identical configurations, each with a mass range between 10-30kg. PHASE I: Conduct a design that shows the feasibility of the concept, backed with low-fidelity, proof-of-concept component testing. The proposer should provide estimated performance and reliability characteristics. PHASE II: Refine the concept through detailed design and analysis including fabrication of hardware. Testing should include multiple test series that demonstrate the restraint and deployment characteristics of the design. This phase should conclude with an updated design based on test results. The proposer should provide performance and reliability characteristics. PHASE III: Demonstrate the scalability of the developed technology, transition the technology to the missile defense system integrator or payload contractor, and ensure maturity for operational insertion into missile defense applications. Demonstration would include, but not limited to, demonstration in a missile defense system or operation in a system level test-bed with insertion planning for a missile defense application. Commercialization: The proposal should show that the innovation has benefits to both commercial and defense applications. Technology developed can be applied to commercial satellite or launch

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platforms; weaponry; or military aircraft. The projected benefits should demonstrate cost reduction and improve producibility or performance of products that use the technology. The proposer should estimate the market size for both commercial and defense applications. Success in this research area should strengthen available and reliable hardware for use at missile defense application Department of Defense Agencies, and commercial entities.